

Amendments to claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Claims 1-8. (Cancelled)

Claim 9. (Currently Amended) A method for assisting in obtaining a pathological diagnosis from a plurality of pictures representing a specimen on a slide, the method comprising the following steps:

- obtaining digitized data corresponding to images of a specimen on a slide placed under a microscope;

- processing said images, wherein the step of processing comprises:

- combining pictures taken at a single magnification;

- enabling zooming in and out from each magnification to another; and

- detecting background and image intensity and correcting the images accordingly;

- examining the images in accordance with predetermined histopathological criteria; and

- providing an examination report based on said examination.

Claim 10. (Cancelled)

Claim 11. (Original) The method according to claim 9, further comprising:

- providing an analysis based on said examination.

Claim 12. (Original) The method according to claim 9, further comprising:

- providing a diagnosis based on said examination.

Claim 13. (Original) The method according to claim 9, wherein the step of obtaining digitized data includes obtaining digitized data corresponding to images of a specimen taken at at least one magnification.

Claim 14. (Original) The method according to claim 9, wherein the step of obtaining digitized data includes obtaining digitized data corresponding to images of a specimen taken at a plurality of different magnifications.

Claim 15. (Original) The method according to claim 14, further comprising mapping elements to permit zooming from images at one magnification to another at an analogous point in the images.

Claim 16. (New) The method according to claim 9, wherein said specimen is taken from a tissue lesion.

Claim 17. (New) The method according to claim 9, wherein said images are compressed in JPEG format.

Claim 18. (New) The method according to claim 9, wherein the step of processing further comprises using TSA1.

Claim 19. (New) The method according to claim 9, wherein the step of processing further comprises using TSA2.

Claim 20. (New) The method according to claim 9, wherein said examination comprises determining the mean size of a pathological cell in said specimen.

Claim 21. (New) The method according to claim 9, wherein said specimen comprises melanocytes, keratinocytes, erythrocytes, or lymphocytes.

Claim 22. (New) The method according to claim 9, wherein said specimen comprises melanin or collagen.

Claim 23. (New) The method according to claim 9, wherein said examination report comprises a co-plot.

Claim 24. (New) The method according to claim 12, wherein said diagnosis is melanoma.

Claim 25. (New) A medical decision support system for assisting in obtaining a pathological diagnosis from a plurality of pictures representing a specimen on a slide, according to the method of claim 9, said system comprising

- a computer; and
- a computer program product arranged to provide data derived from examination of digital images of a tissue specimen according to predetermined criteria for histopathological analysis.

Claim 26. (New) A computerized medical decision support system as in claim 25 wherein said computer program product further includes an analysis module.

Claim 27. (New) A computerized medical decision support system as in claim 26 wherein said computer program product further includes a diagnosis module.

Claim 28. (New) A computerized medical decision support system as in claim 27 wherein said system further provides data concerning similar cases, including images and related information analysis.

Claim 29. (New) A computerized medical decision support system as in claim 25, wherein said system further includes an image acquisition module for providing said digital images.

Claim 30. (New) A computerized medical decision support system as in claim 29, wherein said image acquisition module includes:

- a microscope; and
- a digital camera coupled to said microscope for capturing, through said microscope, at least one picture representing a specimen on a slide and generating digitized images thereof.

Claim 31. (New) The computerized medical decision support system as in claim 30, wherein said digital camera is arranged to capture, through said microscope, more than one picture representing a specimen on a slide and generating digitized images thereof.

Claim 32. (New) A computerized medical decision support system as in claim 25, wherein said system further comprises

- a communication means for transferring data from a digital camera to a remote server for image processing, and from the server back to the computer.